

What is claimed is:

1. An apparatus for cleaning a part, comprising:

a housing defining a cleaning chamber;

at least one nozzle adapted to direct a cleaning fluid onto at least a portion of the

5 part disposed within said cleaning chamber;

a sensor adapted to detect a presence of the part and to generate a control signal in response thereto; and

a valve adapted to open in response to said control signal to deliver said cleaning

fluid to said at least one nozzle and to dispense said cleaning fluid onto said at least a

10 portion of the part.

2. The apparatus of claim 1 further comprising a timer adapted to close said

valve after passage of a predetermined period of time following generation of said control

signal.

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3. The apparatus of claim 1 further comprising a timer adapted to close said

valve after passage of a predetermined period of time following removal of said control

signal.

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4. The apparatus of claim 1 further comprising a timer adapted to open said

valve after passage of a predetermined period of time following generation of said control

signal to deliver said cleaning fluid to said at least one nozzle.

5. The apparatus of claim 1 wherein said valve opens in response to generation of said control signal.

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6. The apparatus of claim 1 wherein said valve closes in response to removal of said control signal.

7. The apparatus of claim 1 further comprising a plurality of said at least one nozzle, said plurality of nozzles being arranged to direct said cleaning fluid onto said at least a portion of the part from a plurality of directions.

10 8. The apparatus of claim 1 further comprising an opposing pair of said at least one nozzle, said opposing pair of nozzles being arranged to direct said cleaning fluid onto said at least a portion of the part from generally opposite directions.

15 9. The apparatus of claim 1 wherein said at least one nozzle is a spray nozzle having a spray head, said at least one nozzle extending through said housing with said spray head being disposed within said cleaning chamber, said spray head being adapted 20 to spray said cleaning fluid onto said at least a portion of the part.

10. The apparatus of claim 9 wherein said at least one nozzle is adjustable to vary a distance between said spray head and said at least a portion of the part.

11. The apparatus of claim 1 wherein said sensor is an optical sensor, said 5 optical sensor including an emitter adapted to emit a photoelectric beam and a receiver adapted to receive said photoelectric beam, said presence of said at least a portion of the part breaking said photoelectric beam, said optical sensor generating said control signal in response to said breaking of said photoelectric beam.

10 12. The apparatus of claim 11 wherein said photoelectric beam extends along a first axis, said at least one nozzle being arranged to direct said cleaning fluid generally along a second axis, said first axis and said second axis being substantially co-planar.

15 13. The apparatus of claim 1 further comprising a mixer, said valve being adapted to supply a compressed fluid to said mixer in response to said control signal, said mixer being adapted to intermix a cleaning agent with said compressed fluid to form said cleaning fluid.

20 14. The apparatus of claim 13 wherein said mixer is adapted to selectively control an amount of said cleaning agent to be intermixed with said compressed fluid.

15. The apparatus of claim 13 further comprising a regulator adapted to regulate delivery of said compressed fluid to said mixer.

16. The apparatus of claim 1 wherein said housing includes an opening in 5 communication with said cleaning chamber, the part extending through said opening with said at least a portion of the part being disposed within said cleaning chamber.

17. The apparatus of claim 1 wherein the part is a measurement probe used in 10 association with a coordinate measurement machine, said at least a portion of the part comprising a tip of said measurement probe.

18. The apparatus of claim 1 wherein said cleaning fluid is a cleaning solution, said cleaning solution being comprised of a compressed fluid and a cleaning agent.

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19. The apparatus of claim 18 wherein said compressed fluid is air and wherein said cleaning agent is isopropyl alcohol.

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20. The apparatus of claim 18 wherein said cleaning fluid is compressed air.

21. An apparatus for cleaning a part, comprising:

a housing defining a cleaning chamber;

a mixer adapted to intermix a cleaning agent with a compressed fluid to form a

5 cleaning solution;

at least one nozzle arranged to direct said cleaning solution onto at least a portion

of the part disposed within said cleaning chamber; and

10 a valve adapted to selectively deliver said cleaning solution to said at least one

nozzle.

15 22. The apparatus of claim 21 further comprising a sensor adapted to detect a

presence of the part and to generate a control signal in response thereto, said valve being

adapted to open in response to said control signal to selectively deliver said cleaning fluid

to said at least one nozzle.

20 23. The apparatus of claim 21 further comprising a timer adapted to at least

partially control operation of said valve to selectively deliver said cleaning solution to

said at least one nozzle

24. The apparatus of claim 21 wherein said compressed fluid is air and said

cleaning agent is an alcohol.

25. The apparatus of claim 24 wherein said cleaning agent is isopropyl alcohol.

5 26. An apparatus for cleaning a part, comprising:
a housing defining cleaning chamber;
means for mixing a compressed fluid and a cleaning agent to form a cleaning
solution;
means for sensing a presence of the part; and
10 means for spraying said cleaning solution onto at least a portion of the part
disposed within said cleaning chamber, said means for spraying being activated in
response to said presence of the part within said cleaning chamber.

15 27. The apparatus of claim 26 further comprising means for regulating the
duration of activation of said means for spraying.

28. The apparatus of claim 26 further comprising means for selectively
supplying a regulated amount of said compressed fluid to said means for mixing.

20 29. The apparatus of claim 26 wherein said means for mixing includes means
for adjusting an amount of said cleaning agent to be intermixed with said compressed

fluid to form said cleaning solution.

30. The apparatus of claim 26 wherein said means for spraying includes:

at least one spray nozzle; and

5 means for adjusting a distance between said at least one spray nozzle and said at least a portion of the part disposed within said cleaning chamber.

31. A method of cleaning the probe tip of a coordinate measuring machine,

comprising:

10 providing a housing defining cleaning chamber and at least one nozzle arranged to dispense a cleaning solution into said cleaning chamber;

positioning the probe tip within the cleaning chamber;

mixing a compressed fluid with a cleaning agent to form the cleaning solution;

detecting a presence of the probe tip within the cleaning chamber; and

15 dispensing the cleaning solution from the at least one nozzle and onto the probe tip in response to the detecting.

32. The method of claim 31 further comprising regulating the duration of the

dispensing for a predetermined period of time.

33. The method of claim 31 further comprising providing a sensor for the detecting and a control valve for controlling the dispensing, the sensor generating a control signal in response to the presence of the probe tip within the cleaning chamber, 5 the control valve selectively delivering the cleaning fluid to the at least one nozzle in response to the control signal.

34. The method of claim 31 wherein the nozzle is a spray nozzle, at least two spray nozzles being provided and arranged to spray the cleaning solution onto the probe 10 tip from at least two different directions.

35. The method of claim 31 wherein the compressed fluid is air and the cleaning agent is isopropyl alcohol.

15 36. A method of cleaning the probe tip of a coordinate measuring machine, comprising:

providing a housing defining cleaning chamber, a cleaning agent contained within the cleaning chamber, and at least one nozzle adapted to dispense a fluid; 20 submerging the probe tip in the cleaning agent; positioning the probe tip adjacent the at least one nozzle; and dispensing the fluid from the at least one nozzle and onto the probe tip.

37. The method of claim 36 further comprising:

providing a sensor for detecting a presence of the probe tip within the cleaning chamber and a control valve for controlling the dispensing; and

5 the sensor generating a control signal in response to the presence of the probe tip within the cleaning chamber, the control valve selectively delivering the fluid to the at least one nozzle in response to the control signal.

38. The method of claim 36 wherein the nozzle is a spray nozzle, at least two

10 spray nozzles being provided and arranged to spray the fluid onto the probe tip from at least two different directions.

39. The method of claim 36 wherein the dispensing facilitates evaporation of residual cleaning agent from the probe tip.

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40. The method of claim 36 wherein the fluid is compressed air and the cleaning agent is isopropyl alcohol.